

## CLAIMS

1. A biventricular stimulation device comprising a pulse generator for delivering stimulation pulses at least to the ventricles of a patient's heart, and an evoked response detector having independent, first and second ventricular sensing channels for ventricular evoked response detection in the ventricles, said pulse generator being controlled to deliver said stimulation pulses to the second ventricle with a VV time delay after stimulation pulse delivery to the first stimulated ventricle which is shorter than an evoked response detection time window following delivery of a stimulation pulse to the first stimulated ventricle, characterized in that said evoked response detector is arranged to close said evoked response detection time window or discard detections therein in response to the emission of a stimulation pulse to the second ventricle during said evoked response detection time window of the first stimulated ventricle.
2. The device according to claim 1, characterized in that an inhibiting means is provided for inhibiting stimulation in the second ventricle in response to the detection of a sensed intrinsic cardiac event therein.
3. The device according to claim 1 or 2, characterized in that said VV time delay is less than 40 msec, preferably in the range of 10 – 30 msec.
4. The device according to any of the preceding claims, characterized in that the duration of said evoked response detection time window is in the range of 40 – 100 msec.